

What is claimed is:

1. A CDMA baseband receiver comprising:
a first correlating unit which calculates first correlation values from a spread modulation signal and a short code which is common to base stations;
5 a long code phase candidate outputting section which outputs selected long code phase candidates corresponding to ones selected from said first correlation values, based on said spread modulation signal, and determined long codes, said selected long
10 code phase candidates being other than long code phase candidates for known ones of said base stations; and
a long code determining section which generates said determined long codes for unknown ones of said
base stations from said spread modulation signal, said
15 short code, and long codes generated based on said selected long code phase candidates, each long code being peculiar to one base station.
2. The CDMA baseband receiver according to claim 1, wherein said correlation values corresponding to said selected long code phase candidates are larger than a first predetermined threshold value.
3. The CDMA baseband receiver according to claim 1, wherein said long code phase candidate outputting section further outputs correlation peak phases

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5 predetermined number of second correlation values for
said known base stations.

4. The CDMA baseband receiver according to claim 1,
wherein said long code phase candidate outputting
section includes:

a maximum correlation peak phase detecting unit
5 which detects and holding as long code phase
candidates, peak phases corresponding to said first
correlation values for a second predetermined number
from a maximum one of said first correlation values
and higher than a second predetermined threshold
10 value;

spreading code generating units which generate spreading codes from said short code and said determined long codes, respectively;

delay profile generating units which generate
15 delay profiles for said known base stations based on
said generated spreading codes, respectively; and

a phase detecting unit which removes long code phase candidates corresponding to peak phases for said generated delay profiles from said held long code phase candidates, and outputs the remaining long code phase candidates as said selected long code phase candidates to said long code determining section.

5. The CDMA baseband receiver according to claim 1, wherein said long code phase candidate outputting section includes:

a peak phase storage memory;

5 spreading code generating units which generate spreading codes from said short code and said determined long codes, respectively;

delay profile generating units which generate delay profiles for said known base stations based on
10 said generated spreading codes, respectively;

a phase detecting unit which detects ones higher than a third predetermined threshold value from among third correlation values calculated from said generated delay profiles and stores peak phases
15 corresponding to said detected third correlation value in said peak phase storage memory; and

a maximum correlation peak phase detecting unit which compares a second predetermined threshold value and each of said first correlation values, detects
20 peak phases corresponding to ones for a second predetermined number from a maximum one of said first correlation values larger than said second predetermined threshold value, compares each of said detected peak phases and said stored peak phases in
25 said peak phase storage memory to remove said stored peak phases from said detected peak phases, and outputs remaining peak phases as said selected long

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6. The CDMA baseband receiver according to claim 5, wherein said long code phase candidate outputting section further includes:

5 peak phases for said known base stations.

section includes:

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5  said first correlation values;
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determined long codes, respectively;

10 delay profiles for said known base stations based on

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15 generated delay profiles;
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correlation values and sets ones corresponding to said

stored peak phases of said first correlation values
20 stored in said correlation value storage memory to
lower values than a second predetermined threshold
value; and

a maximum correlation peak phase detecting unit
which compares said second predetermined threshold
25 value and each of said first correlation values stored
in said correlation value storage memory, and outputs
peak phases corresponding to ones for a second
predetermined number from a maximum one of said first
correlation values larger than said second
30 predetermined threshold value as said selected long
code phase candidates to said long code determining
section.

8. The CDMA baseband receiver according to claim 7,
wherein said long code phase candidate outputting
section further includes:

a path detecting unit which outputs said stored
5 peak phases for said known base stations.

~~9.~~ A method of determining long codes for unknown
base stations in a CDMA baseband receiver, comprising:
calculating first correlation values from a
spread modulation signal and a short code which is
5 common to base stations;

outputting selected long code phase candidates

determining long codes for said unknown base stations from said spread modulation signal, said short code, and long codes generated based on said
15 selected long code phase candidates, each long code is peculiar to one base station.

11. The method according to claim 9, wherein said outputting further includes:

12. The method according to claim 9, wherein said outputting includes:

detecting and holding as long code phase
candidates, peak phases corresponding to said first

detecting ones higher than a third
predetermined threshold value from among third
10 correlation values calculated from said generated

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and said determined long codes, respectively;

generating delay profiles for said known base stations based on said generated spreading codes, respectively;

10 detecting ones higher than a third predetermined threshold value from among third correlation values calculated from said generated delay profiles;

storing peak phases corresponding to said
15 detected third correlation values;

setting ones corresponding to said stored peak phases of said first correlation values stored in said correlation value storage memory to lower values than a second predetermined threshold value;

20 comparing said second predetermined threshold value and each of said first correlation values stored in said correlation value storage memory; and

outputting peak phases corresponding to ones for a second predetermined number from a maximum one
25 of said first correlation values larger than said second predetermined threshold value as said selected long code phase candidates to said long code determining section.

16. The method according to claim 15, wherein said outputting further includes:

outputting said stored peak phases for said

known base stations.

Figure 1. The effect of the concentration of the *Agrobacterium* strain on the transformation efficiency of *Agrobacterium* strain 102. The *Agrobacterium* strain 102 was cultured in the YEA medium for 24 h. The cell concentration was adjusted to 10⁸ cells/ml. The cell suspension was mixed with the plant extract and the mixture was incubated for 24 h. The plant extract was then added to the YEA medium and the mixture was incubated for 24 h. The transformation efficiency was determined by the number of transformants per 10⁸ cells. The results are shown in Table 1.